

EXHIBIT B

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
TEXARKANA DIVISION**

CATHX RESEARCH LTD.,

Plaintiff,

v.

2G ROBOTICS INC. a/k/a VOYIS
IMAGING, INC.,

Defendant.

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Case No. 5:21-cv-00077-RWS
Honorable Robert W. Schroeder III

**DEFENDANT VOYIS IMAGING, INC.’S
FOURTH SUPPLEMENTAL INVALIDITY CONTENTIONS**

Defendant 2G Robotics Inc. (now known as Voyis Imaging, Inc. (“Voyis”)) provides the following Fourth Supplemental Invalidity Contentions (or “Contentions”) to Plaintiff Cathx Research Ltd. (“Cathx”) pursuant to Local Patent Rule 3-6(a)(2)(A) following the Court’s Amended Claim Construction Order issued on February 21, 2023, including the newly supplemented claim charts attached hereto as Exhibits 1-3 and 7-8.

Plaintiff alleges that Voyis infringes claims 1-3, 7-13, 15-17 of U.S. Patent No. 10,116,842 (“the ’842 Patent” and “the ’842 Asserted Claims”) and claims 1-8, 12-15, 17-19 of U.S. Patent No. 10,116,841 (“the ’841 Patent” and “the ’841 Asserted Claims,” - together with the ’842 Asserted Claims, the “Asserted Claims”) in its Third Supplemental Infringement Contentions dated December 21, 2022. Third Supplemental Infringement Contentions at 2. Relying on Plaintiff’s Third Supplemental Infringement Contentions, Voyis has limited these Fourth Supplemental Invalidity Contentions to those Asserted Claims. Voyis contends that the Asserted Claims are invalid pursuant to 35 U.S.C. §§ 102, 103, and 112 for the reasons set forth below and in the attached supplemented invalidity charts (Exhibits 1-8).

Cathx has alleged that the Asserted Claims are entitled to a priority date of October 17, 2012. *Id.* at 3-4. As such, the invalidity positions set forth herein are provided under 35 U.S.C. §§ 101, 102, 103, and 112 (pre-AIA). Voyis reserves the right to update and supplement these Fourth Supplemental Invalidity Contentions if Plaintiff later attempts to assert additional claims against Voyis in this case, or if the Asserted Claims are not entitled to the earliest alleged priority date, which could change the date which certain references are considered prior art and whether the pre-AIA rules are applicable, or for any other reason set forth below. Regardless of the priority date of the Asserted Claims, or the assertion of additional claims, the below invalidity arguments do not change.

PRELIMINARY STATEMENT

Voyis reserves the right to supplement, amend, or otherwise modify these Fourth Supplemental Initial Invalidity Contentions as discovery proceeds, including based on information obtained through fact and expert discovery, including third party discovery, or upon further investigation. Voyis further reserves the right to supplement, amend, or otherwise modify these contentions in accordance with any modification to the Scheduling Order entered by this or another court; in response to Cathx's Response to these Fourth Supplemental Invalidity Contentions; or after any decision by this Court, the United States Court of Appeals for the Federal Circuit, or the United States Patent and Trademark Office (including the Patent Trial and Appeal Board) that bears on the construction or validity of the Asserted Patents. Voyis further expressly reserves the right to amend or supplement these contentions in view of any alleged evidence of secondary considerations of non-obviousness asserted by Cathx.

Voyis therefore reserves the right to supplement, amend, or otherwise modify these contentions in accordance with the Federal Rules of Civil Procedure, the Local Rules of this

Court, or any other applicable rules, by order of this Court, or other governing law as appropriate. Also, these contentions are made pursuant to Federal Rule of Evidence 502. To the extent these contentions contain any information that may be protected from discovery under the attorney-client privilege, the attorney work-product immunity, or any other applicable privilege or immunity, such disclosure is inadvertent and does not, nor is it intended to, constitute a waiver of any such privilege or immunity.

Further, by providing these Contentions, Voyis does not waive any right to introduce at trial any subsequently discovered evidence or expert opinions related to currently-known facts and to produce and introduce at trial all evidence, whenever discovered, relating to the proof of subsequently-discovered facts. Voyis reserves the right to refer to, conduct discovery with reference to, or offer into evidence at the time of trial, any and all facts, expert opinion testimony, documents and things notwithstanding the written statements in these contentions. Voyis further reserves its right to refer to, conduct discovery with reference to, or offer into evidence at the time of trial, any and all facts, documents and things that are not currently recalled but might be recalled at some time in the future. Voyis may also rely on documents, testimony, and things produced in the course of fact and expert discovery, including those which have not yet been produced by Cathx, which do not yet exist, or which Voyis has not yet identified or appreciated the significance of in the context of this litigation.

Voyis hereby incorporates by reference into its Contentions any rejections made by the United States Patent and Trademark Office (“PTO”) during the prosecution of the applications leading to the Asserted Patents and any related patent application to the Asserted Patents as well as any admissions made by any applicant during the prosecution of the applications leading to the Asserted Patents and any related patent application to the Asserted Patents. Voyis reserves

the right to assert any art cited in the prosecution histories of the Asserted Patents and/or their related applications as a basis for contending that the Asserted Claims are invalid.

Voyis further identifies as prior art upon which it may rely those references identified in Information Disclosure Statements during the respective prosecution of the Asserted Patents and/or related patent applications to the Asserted Patents, including the EP applications that claim priority to the same GB applications from which the Asserted Patents claim priority.

Voyis also intends to rely on any deposition testimony of the named inventors on the Asserted Patents and/or related applications and related patents to the Asserted Patents; evidence and testimony relating to the level of skill in the art; and the papers filed and any evidence submitted by Cathx in connection with this matter.

Any statement herein describing or tending to describe any claim limitation is solely for the purpose of attempting to understand and apply prior art to the Asserted Patents. By addressing any term of the Asserted Claims, Voyis does not concede that such terms are definite or otherwise comply with 35 U.S.C. § 112. Voyis expressly reserves the right to propose any claim construction application or contest any claim construction application it considers inappropriate and will not be limited by any position arguably set forth in Cathx's Third Supplemental Infringement Contentions or these invalidity contentions. Where multiple interpretations of a claim construction reasonably exist or where Cathx implied meanings or definitions differ from what one of ordinary skill in the art would understand, Voyis might identify disclosures by certain references in the alternative. Any alternatives should not be considered inappropriate merely because Cathx may believe that they are inconsistent with one another.

Voyis' inclusion of prior art that would anticipate or render obvious the foregoing Asserted Claims does not serve as an admission that any particular claim construction is properly applied or correct; no inference is intended nor should any be drawn that Voyis agrees with or take any position with respect to Cathx's application of claim construction. Rather, Voyis expressly reserves the right to contest such application. Further, no inference is intended nor should any be drawn that the claim limitations satisfy 35 U.S.C. § 112, and Voyis reserves the right to contend otherwise. Moreover, nothing in these Fourth Supplemental Initial Invalidity Contentions concerning the failure of the Asserted Patents to satisfy 35 U.S.C. § 112 should be interpreted as an admission that the prior art fails to enable or disclose any element in the claimed inventions of the Asserted Patents.

These Fourth Supplemental Contentions, including the claim charts attached hereto as Exhibits 1-8, identify where specifically in each item of prior art each limitation of the Asserted Claims is found. The citations to references are representative and exemplary of the disclosures and teachings of the listed references. Additional support for Voyis' contentions may be found elsewhere in the cited references. Voyis' inclusion of certain citations or teachings serves as an illustration and Voyis reserves the right to rely on the entirety of the references, including non-cited portions, cited in Exhibits 1-8.

Exhibits 1-8 cite to exemplary teachings and disclosures of the prior art. However, persons having ordinary skill in the art ("POSITA") view the patent with an understanding of the technology and prior art as a whole, including general understandings subsea and/or underwater imaging and data gathering technologies and survey systems that include the use of structured light sources, illumination sources and cameras, other prior art, publications, literature, products, and similar understandings in the relevant art. As such, Voyis further incorporates the general

knowledge of a POSITA, expert testimony, and other evidence as aids in understanding and interpreting the cited portions, as providing context thereto, and as additional evidence that the prior art discloses a claim limitation or any of the Asserted Claims as a whole. Voyis further reserves the right to rely on uncited portions of the prior art references, other publications, and testimony, including expert testimony, to establish bases for combinations of certain cited references that render the Asserted Claims obvious. These Contentions are from the perspective of a POSITA as the Court defined it in the Claim Construction Order. Dkt. 101. These Contentions would still invalidate the Asserted Patents under the alternative definitions of a POSITA proposed by Cathx in its motion to reconsider and clarify aspects of the Court's claim construction order (Dkt. 105).

Similarly, prior art not included in this disclosure, whether known or not known to Voyis, may become relevant. The absence of a particular reference in a claim chart for a particular feature is not a waiver or admission by Voyis. Voyis also reserves the right to rely on any of these references, including on the basis of modifications and combinations of certain cited references. Voyis further reserves the right to rely on any combination of the references cited in Exhibits 1-8, even if not explicitly set forth therein. Also, in particular, Voyis is currently unaware of the extent, if any, to which Cathx will contend that limitations of the asserted claims are not disclosed in the prior art identified by Voyis. To the extent that such an issue arises, Voyis reserves the right to identify such limitations in the cited references or in other references that would disclose or render obvious the allegedly missing limitations of the claims.

The references discussed in the attached supplemented claim charts may disclose the elements of the asserted claims explicitly, inherently, or they may be relied upon to show the state of the art in the relevant time frame. The suggested obviousness combinations are provided

in addition to or in the alternative to Voyis' anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not by itself anticipatory.

The following discussion and Exhibits 1-8 provide exemplary prior art citations and obviousness positions. It will be understood that the citations and discussion in the supplemented claim charts are organized by claim (and limitation) for convenience, but each limitation or claim section applies to the larger context of each claim, to any related dependent or independent claims, as well as all claims containing similar limitations or elements. For example, citations as to any recited limitation, step, or component in the claims apply wherever each such limitation, step, or component is repeated elsewhere in the claim or patent.

Where Voyis cites to a particular drawing or figure in the attached supplemented claim charts, the citation encompasses the description of the drawing or figure, as well as any text associated with the drawing or figure. Similarly, where Voyis cites to particular text concerning a drawing or figure, the citation encompasses that drawing or figure as well.

Relatedly, it is often the case that certain portions of patent or other prior art disclosures build upon other disclosures—even if they are referred to as a separate or alternative embodiment. Thus, Voyis' citations to structures or functions incorporate by references all disclosures to related structures or functions, including any additional detail provided as to the operation or design of those structures or functions.

Voyis also reserves its rights to challenge any of the claim terms herein under 35 U.S.C. § 112, including by arguing that they are indefinite, not supported by the written description, or not enabled. Nothing stated herein shall be construed as a waiver of any argument available under 35 U.S.C. §§ 101, 102, 103, and/or 112.

Certain invalidity defenses, including, for example, knowledge or use by others under § 102(a), public use or on-sale bar under § 102(b), prior art under § 102(e), derivation or prior inventorship under §§ 102(f)/(g), inequitable conduct, and estoppel, may only become apparent as additional discovery or other information becomes available. *See, e.g., In re Clark*, 522 F.2d 623, 626 (C.C.P.A. 1975). For example, Voyis continues to investigate technology developed, deployed, advertised, and publicized by Cathx and others in the industry, as well as others that may arise from Voyis' ongoing investigative efforts. Voyis also reserves its rights to challenge the patentability of any of the Asserted Claims under 35 U.S.C. § 101. Voyis adopts and incorporates by reference herein any and all additional materials regarding invalidity that should have been produced to Voyis by Cathx but have not been produced to date, to the extent that any exist.

Voyis' invalidity positions in these contentions may be in the alternative and do not constitute any concession or admission by Voyis for purposes of invalidity, enforceability, claim construction, or infringement. *See, e.g., Vanmoor v. Wal-Mart Stores, Inc.*, 201 F.3d 1363, 1366 (Fed. Cir. 2000). For example, Voyis' Section 112 arguments may be in the alternative to Voyis' obviousness arguments and should not be viewed, in any way, to be concessions about the prior art or knowledge of one of ordinary skill in the art.

Voyis identifies the following additional prior art references that are relevant to the validity of the Asserted Claims.

| Patent/Application Number: | Country of Origin: | Issue/Publication Date: |
|-----------------------------------|---------------------------|--------------------------------|
| US 2008/0084496 | United States | 4/10/2008 |
| WO 2011/143622 | PCT | 11/17/2011 |

| Title: | Date: | Author and Publisher: |
|--|--------------|------------------------------|
| 3D Visual Modeling of Hydrothermal Chimneys using a Rotary Laser Scanning System | 2011 | T. Nakatani et al. |
| Autonomous detection and volume determination of tubeworm colonies from underwater robotic surveys | 2010 | T. Maki et al. |
| Real time path-planning of an AUV based on characteristics of passiveacoustic landmarks for visual mapping of shallow vent fields | 2007 | T. Maki et al. |
| Color-Accurate Underwater Imaging using Perceptual Adaptive Illumination | 2010 | I. Vasilescu et al. |
| Laser line-scan fluorescence and multispectral imaging of coral reef environments | 1996 | M. Strand et al. |
| Range-gated underwater laser imaging system based on intensified gate imaging technology | 2008 | J. Weiqi et al. |
| LUCIE ROV mounted laser imaging system | 1992 | G. Fournier et al. |
| Imaging Systems for Advanced Underwater Vehicles | 2011 | F. Bonin et al. |
| Experimentation of structured light and stereo vision for underwater 3D reconstruction | 2010 | F. Bruno et al. |
| Application of Structured Light Imaging for High Resolution Mapping of Underwater Archaeological Sites Underwater Optical Imaging: Status and Prospects | 2010 | C. Roman et al. |
| Underwater Optical Imaging: Status and Prospects | 2001 | J. Jaffe et al. |
| Underwater Optics and Imaging | 2008 | F. Caimi et al. |

| Item for Sale or in Public Use: | Date: | Person or entity which made the information known or to whom it was made known: |
|--|--------------|--|
| ULS-500 integration with the Hugin AUV | May 18, 2012 | 2G Robotics Inc. to C&C Technologies, Inc. |

Voyis reserves the right to prove the invalidity of the Asserted Claims on bases other than those required to be disclosed in these disclosures and contentions.

INVALIDITY CONTENTIONS

As discussed in detail herein, Voyis contends that the relevant prior art standing alone or in combination, along with the knowledge and understanding of a person of ordinary skill in the art (“POSITA”), renders the Asserted Claims of the Asserted Patents are invalid at least under 35 U.S.C. § 102 as anticipated, 35 U.S.C. § 103 as obvious, and 35 U.S.C. § 112 for indefiniteness, lack of enablement, and/or lack of written description. Voyis expressly reserves its rights to develop and make other arguments and assert any defenses relating to invalidity of any of the Asserted Claims.

I. Invalidity under 35 U.S.C. §§ 102 and 103 (pre-AIA)

Voyis lists below the prior art now known to it and that it contends anticipates or renders obvious the Asserted Claims under 35 U.S.C. §§ 102 and/or 103. Voyis provides the attached supplemental invalidity charts demonstrating that all limitations of the Asserted Claims can be found in the prior art references cited below, and thus are invalid under 35 U.S.C. §§ 102 and 103. (*See Exhibits 1-8.*)

A. Prior Art Patents and Published Patent Applications under 35 U.S.C. §§ 102(a) and/or (b)

Voyis identifies the following prior art patents and patent applications that anticipate each Asserted Claim, or renders each Asserted Claim obvious, in line with Local Patent Rule 3-3(a).

| Patent/Application Number: | Country of Origin: | Issue/Publication Date: |
|-----------------------------------|---------------------------|--------------------------------|
| US 2011/0228075 | United States | 9/22/2011 |
| US 2012/0062963 | United States | 3/15/2012 |

| Patent/Application Number: | Country of Origin: | Issue/Publication Date: |
|-----------------------------------|---------------------------|--------------------------------|
| US 2012/0069172 | United States | 3/22/2012 |
| JP 2012/015638 | Japan | 1/19/2012 |
| US 7,417,666 | United States | 9/26/2008 |

B. Printed Publications under 35 U.S.C. §§ 102(a) and/or (b)

Voyis identifies the following printed publications that anticipate each Asserted Claim, or renders each Asserted Claim obvious, in line with Local Patent Rule 3-3(a).

| Title: | Date: | Author and Publisher: |
|--|---|--|
| Development of the AUV Tri-TON for Imaging Rough Seafloor | August 2-3, 2012 | Toshiro Maki, et al. “The 23rd Ocean Engineering Symposium,” Japan Society of Naval Architects and Ocean Engineers |
| Volumetric Mapping of Tubeworm Colonies in Kagoshima Bay through Autonomous Robotic Surveys | Available on the ScienceDirect website at least as early as May 26, 2011 | Toshiro Maki, et al. “Deep Sea Research Part I: Oceanographic Research Papers,” Volume 58, Issue 7 |
| Deep-Ocean Use of the SM2000 Laser Line Scanner on Submarine NR-1 Demonstrates System Potential for Industry and Basic Science | Available on the IEEE Xplore website at least as early as August 6, 2002 | I.R. MacDonald, et al. “Challenges of Our Changing Global Environment,” Conference Proceedings OCEANS '95 MTS/IEEE |
| First Sea Trials of a Laser Aided Three Dimensional Underwater Image Mosaicing Technique | Available on the IEEE Xplore website at least as early as August 30, 2011 | L. Brignone, et al. OCEANS 2011 IEEE - Spain |
| An Approach of 3D Information Real-Time Display of Underwater Target Based on Laser Digital Scanning Grid | Available on the IEEE Xplore website at least as early as June 30, 2009 | Bing Zheng, et al. OCEANS 2008 |
| Development of a New Underwater Bathymetric Laser Imaging System: L-Bath | August 1, 2000 | K. D. Moore, et al. “Journal of Atmospheric and Oceanic Technology,” Volume 17, Issue 8 |

C. Prior Art Systems under 35 U.S.C. §§ 102(a) and/or (b)

Voyis identifies the following systems that were offered for sale or on sale and in public use in the United States of America more than one year prior to the priority date of the Asserted Patents and which anticipate each Asserted Claim, or renders each Asserted Claim obvious, in line with Local Patent Rule 3-3(a).

| Item for Sale or in Public Use: | Date: | Person or entity which made the information known or to whom it was made known: |
|---|--------------|--|
| ULS-500 integration with the Hugin AUV (“LPP Offer for Sale”) | May 1, 2012 | 2G Robotics Inc. to C&C Technologies, Inc. |

D. Prior Art under 35 U.S.C. §§ 102(f).

Voyis does not have any disclosures under 35 U.S.C. § 102(f) at this time. Voyis reserves the right to supplement after discovery completes.

* * *

In addition to the references enumerated above, Voyis reserves the right to rely upon additional references or prior art discovered as discovery progresses; to explain scientific background; to show the state of the art or what was inherent in the prior art or the level of ordinary skill in the relevant art as of the priority date or the alleged date of invention; in accordance with the rulings of the Court; by agreement of the parties; in response to any contention by Cathx that the prior art does not teach what Voyis purposes it to teach, or for other good cause shown.

In addition to the above references, Voyis will rely on all prior art cited in the prosecution history of the Asserted Patents or related applications as a basis for contending that the Asserted

Patents are invalid, cited in related patents and/or patent applications, and incorporates such prior art by reference herein. Voyis further identifies as prior art upon which it will rely all statements in the specification and file histories of the Asserted Patents, for instance but not limited to art disclosed in an Information Disclosure Statement, identified by the examiner, or otherwise disclosed to the Patent Office during prosecution. Voyis also incorporates by reference the other patents and publications cited on the face of the Asserted Patents.

E. Motivation to Combine under 35 U.S.C. § 103 (pre-AIA)

The Asserted Claims are obvious under 35 U.S.C. § 103 for the reasons set forth in Exhibits 1-8. If Cathx asserts, or the Court determines, that one or more of the references cited above and described in Exhibits 1-8 fail to disclose one or more elements of any Asserted Claim, the above references may be combined to invalidate the Asserted Claims under 35 U.S.C. § 103 for at least the reasons set forth below in line with Local Patent Rule 3-3(b).

To the extent that any limitation recited by the Asserted Claims is not explicit or inherent in the references identified above, and/or would not have been understood to have been disclosed in such reference by a POSITA at the time of the alleged invention claimed, it would have been obvious to a POSITA in view of the state of the art at the time to supply such missing limitation from his/her own knowledge, the state of the art, and/or one or more other references. A POSITA would have been taught, suggested, or motivated to combine these references for any number of reasons. As just a few examples of such reasons, and without prejudice to others that Voyis expects to be the subject of expert testimony in this case, underwater survey systems incorporating cameras, illumination devices, and structured light sources in various configurations was already well known. *See* U.S. 10,116,842 at Col. 1:58 – 2:7, 2:24-31; *see also* face of '842 patent citing Tetlow, S., et al., "Three-dimensional measurement of underwater

work sites using structured laser light," Meas. Sci. Technol, Sep. 1999. 10(12): pp. 1162-1167.

Accordingly, one of skill in the art would also use their ordinary creativity and awareness of the totality of the art, drawing appropriate inferences and employing the creative steps appropriate for a POSITA. *See KSR Int'l Co.*, 550 U.S. at 418. To the extent any such teaching, suggestion, or motivation were necessary, a POSITA would derive such from "any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself."

Dystar Textilfarben GmbH v. C.H. Patrick Co., 464 F.3d 1356, 1361 (Fed. Cir. 2006); *see also Cable Elec. Prods. Inc. v. Glenmark, Inc.*, 770 F.2d 1015, 1025 (Fed. Cir. 1985); *In re Beattie*, 974 F.2d 1309, 1311–12 (Fed. Cir. 1992). Moreover, "the [TSM] analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l Co.*, 550 U.S. at 418.

Here, all of the references relate to systems for underwater surveys and are no less than analogous art, such that they are in areas within which a POSITA seeking to solve the same problem would be inclined to research for a solution. Specifically, a POSITA would seek to construct survey systems and methods that contain components such as a camera, structured light source and illumination light source and a system that coordinates the use of these components similar to those references discussed herein. In addition, it would further have been obvious to a POSITA to supply any missing elements from any of the foregoing references with that element as disclosed in one or more of the other foregoing references.

For the reasons stated in the attached Appendices and as set forth below, the elements of the Asserted Claims were commonplace before the Asserted Patents' alleged October 17, 2012, priority date. For each element, there exists evidence from the cited prior art that it was well

known in the art prior to October 17, 2012. To the extent it is argued that any of the cited prior art references do not anticipate each Asserted Claim, it would have been obvious to a person of ordinary skill in the art that the Asserted Claims are merely a combination of well-known methods and systems resulting in expected results.

F. Secondary Considerations of Non-obviousness

Voyis contends that no secondary considerations weigh in favor of non-obviousness with respect to the Asserted Claims. Voyis notes that secondary considerations do not form a part of the *prima facie* case of obviousness. Rather, a patentee may try to rebut a *prima facie* case of obviousness by coming forth with purported evidence of secondary considerations. Voyis therefore has no burden at this stage to address any secondary considerations, or to come forward with any evidence rebutting such evidence. Accordingly, it is Cathx's obligation and burden to produce evidence of so-called secondary considerations, if any, on which it intends to rely.

Voyis is presently unaware of, and Cathx has not yet alleged, any secondary considerations that are relevant to the Asserted Patents. Specifically, Cathx has failed to establish a nexus between the claims of the Asserted Patents and any purported benefit of any system that embodies any claim of the Asserted Patents. There is no evidence of copying, as admitted by Cathx (Boyle Tr. at 130:4-131:1), and any such allegation is rebutted by the independent development of the systems by the non-operational 2G Robotics Inc. See 11/28/2022 Voyis' Response to Cathx's Interrogatory No. 19. Further, there is no evidence of unexpected results, commercial success, long-felt but unsolved needs, failure of others, skepticism of experts, and copying by others. To the contrary, the Asserted Patents admit that all of the components of the claims existed in the prior art and the limited purported innovation rests in their configuration. Moreover, the record and prior art reflects such configurations existed

and, to the extent they did not, were obvious such that the Asserted Patents were obvious. Voyis expects that additional discovery directed to alleged secondary considerations will take place in accordance with the case schedule, and that the evidence will rebut any alleged or claimed secondary considerations in full. As such, Voyis reserves the right to supplement these contentions and to rebut any claim of secondary considerations of non-obviousness raised by Cathx, if any, as discovery proceeds in this case.

II. Invalidity Pursuant to 35 U.S.C. § 112 (pre-AIA)

a. The '841 Asserted Claims Are Invalid for Failing to Comply with 35 U.S.C. § 112 ¶1 for Lack of Written Description

The '841 Asserted Claims are invalid under 35 U.S.C. § 112, ¶ 1 for lack of adequate written description. “A claim has met the written description requirement of 35 U.S.C. § 112 if it clearly allow[s] persons of ordinary skill in the art to recognize that the inventor invented what is claimed. Said otherwise, the application's disclosure must reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date. *Fleming v. Cirrus Design Corp.*, 28 F.4th 1214 (Fed. Cir. 2022) (internal citations omitted).

Independent claim 1 requires a “sequential imaging module” to “adjust lighting and imaging parameters between individual image captures such that a time relationship of the lighting and imaging parameters to individual image captures in the sequence of images in each of the plurality of overlapping fields of view is predetermined, and a time relationship of the lighting and imaging parameters to image captures with different light classes in each of the plurality of overlapping fields of view is predetermined.” The specification of the '841 patent fails to disclose a “sequential imaging module” that performs this function. Specifically, there is no teaching or disclosure in the specification where the module (a) adjusts lighting and imaging parameters in a manner such that that there is a “time relationship” between the lighting and

imaging parameters to individual image captures and (b) where such relationship is “predetermined.”

These limitations were added to the claims during the prosecution of the application that matured into the '841 patent. Specifically, Applicants amended original claims 1 and 24 to include these additional limitations in a response to a non-final office action dated December 1, 2016. The amended portion of claim 1 reads as follows:

the sequential imaging module controlling the operational parameters of the light module and camera module to adjust lighting and imaging parameters between individual image captures such that a time relationship of the lighting and imaging parameters to individual image captures in the sequence of images in each of the plurality of overlapping fields of view is predetermined, and a time relationship of the lighting and imaging parameters to image captures with different light classes in each of the plurality of overlapping fields of view is predetermined; and

Amendment dated June 1, 2017 at 2.

Applicants made this amendment in an attempt to overcome a prior art rejection of the claims under 35 U.S.C. § 102 based on the Bonin reference. *Id.* at 9. In the “Remarks” section of the Amendment, Applicants failed to indicate the portion(s) of the specification that supported this amendment, which it was required to do under the law. *See, e.g., Hyatt v. Dudas*, 492 F.3d 1365, 1370, n.4 (Fed. Cir. 2007). Applicants subsequently relied, in part, on this amendment during prosecution to gain allowance of the claims. *See, e.g.,* Amendment dated February 26, 2018 at 9.

However, at no point throughout prosecution did Applicants identify any written description support for these new limitations. And nor could they since these limitations are not contained in the specification of the '841 patent or the foreign applications to which Cathx allegedly claims priority. There is no disclosure in the specification about a “time relationship” between any parameters, let alone one that is “predetermined” as required by claim 1. In other

words, the specification does not convey with reasonable clarity to those skilled in the art that Applicants were in possession of the invention as now claimed to at least it pertains to these limitations. *See, e.g., Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991). Therefore, claim 1 and the Asserted Claims that depend therefrom are invalid for at least this reason.

Independent claim 14 (and dependent claims) of the '841 patent contain similar limitations that were added during prosecution and are invalid under 35 U.S.C. § 112, ¶ 1 for lack of written description for the same reasons discussed with respect to claim 1.

Therefore, claims 1-8, 12-15, and 17-19 of the '841 patent are invalid for at least this reason.

b. The '841 Asserted Claims Are Invalid for Failing to Comply with 35 U.S.C. § 112 ¶2 as Being Indefinite

The '841 Asserted Claims are invalid under 35 U.S.C. § 112, ¶ 2 as being indefinite. “[A] patent must be precise enough to afford clear notice of what is claimed, thereby apprising the public of what is still open to them.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 909 (2014). Accordingly, “[t]he Patent Act requires that a patent specification ‘conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as [the] invention.’” *Id.* at 901 (quoting 35 U.S.C. § 112, para. 2). Patent claims are indefinite if they “fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Id.*

Independent claims 1 and 14 require that a “time relationship” between (a) the lighting and imaging parameters to capture images in a plurality of overlapping fields of view is “predetermined” and (b) the lighting and imaging parameters to capture images with different light classes in each of the plurality of overlapping fields of view is “predetermined.” These

limitations render the claims indefinite as they fail to set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity as to what it means to have a “time relationship” that is “predetermined” between parameters. There is no guidance from the claims, alone or in view of the specification, as to what boundaries and scope these terms encompass. For example, it is unclear as to *what* type of “time relationship” would need to be subject to some sort of predetermination, and *which* lighting and imaging parameters are subject to this unspecified relationship. Further, it is unclear what it means for such a relationship to be “predetermined” where the “relationship” is an ambiguous term in and of itself. Without any guidance from the specification as to the meaning of these terms, these limitations render the claim indefinite under 35 U.S.C. § 112, ¶ 2. *See e.g., Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Ci. 2014) (finding that there was a lack of sufficient guidance to make definite a “purely subjective claim phrase”).

Independent claim 14 (and dependent claims) of the ’841 patent contain similar limitations that were added during prosecution and are invalid under 35 U.S.C § 112, ¶ 2 as being indefinite for the same reasons discussed with respect to claim 1.

Therefore, claims 1-8, 12-15, and 17-19 of the ’841 patent are invalid for at least this reason.

c. The ’842 Asserted Claims Are Invalid for Failing to Comply with 35 U.S.C. § 112 ¶1 for Lack of Written Description

The ’842 Asserted Claims are invalid under 35 U.S.C. § 112, ¶ 1 for lack of adequate written description. Claim 1 requires, *inter alia*, “the camera configured to capture a sequence of images of each of a plurality of fields of view within the scene....” The specification states that “the term field of view will refer to the area viewed or captured by a camera at a given instant.” (’842 patent, Col. 9:27-29). In other words, claim 1 requires that the camera captures more than

one image (i.e., a sequence of images) of an area viewed or captured by a given instant. For there to be more than one image captured of an area viewed or captured at a given instant, the system would require more than one camera as the capture must occur simultaneously (i.e., at a given instant). However, claim 1 of the '842 patent encompasses systems that include a single camera. The specification fails to disclose systems that encompass the ability to take more than one image for a given instant using a single camera or even the use of multiple cameras taking pictures simultaneously. *Juno Therapeutics, Inc. v. Kite Pharma, Inc.*, 10 F.4th 1330, 1336 (Fed. Cir. 2021) (finding lack of written description where claims failed to disclose the full scope of the claimed invention). Therefore, claim 1 and the claims that depend therefrom are invalid.

Independent claim 13 (and dependent claims) of the '842 patent contain similar limitations that were added during prosecution and are invalid under 35 U.S.C § 112, ¶ 1 for lack of written description for the same reasons discussed with respect to claim 1.

Therefore, claims 1-3, 7-13, and 15-17 of the '842 patent are invalid under 35 U.S.C § 112, ¶ 1 for lack of written description.

d. The '842 Asserted Claims Are Invalid for Failing to Comply with 35 U.S.C. § 112 ¶2 as Being Indefinite

The '842 Asserted Claims are invalid under 35 U.S.C. § 112, ¶ 2 as being indefinite. In particular, the independent claims - claims 1 and 13 - require that “a specific configuration of light source parameters and camera parameters is used.” This limitation renders the claims indefinite since it fails to set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity as to what it means to have a “specific configuration” of light source parameters and camera parameters. *Nautilus*, 572 U.S. at 909 (2014) (Patent claims are indefinite if they “fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.”) There is no guidance from the claims, alone or in view of the

specification, as to what boundaries and scope this phrase encompasses and the phrase is subjective. For example, it is unclear as to *what* type configuration of light source parameters and camera parameters constitutes a “specific configuration” when the camera and light sources are synchronized and *which* light source parameters and camera parameters are the subject of this ambiguous configuration. Without any guidance from the specification as to the meaning of these terms, this limitation render the claim indefinite under 35 U.S.C. § 112, ¶ 2. *See e.g., Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Ci. 2014) (finding that there was a lack of sufficient guidance to make definite a “purely subjective claim phrase”).

Therefore, claims 1-3, 7-13, and 15-17 of the ’842 patent are invalid for at least this reason.

e. The ’842 Asserted Claims Are Invalid for Failing to Comply with 35 U.S.C. § 112 ¶2 as Not Enabled

The ’842 Asserted Claims are invalid under 35 U.S.C. § 112, ¶ 2 for lack of enablement as the specification does not teach a POSITA how to make and use the full scope of the claimed invention without undue extermination. *In re Wands*, 858 F.2d 731, 736-37 (Fed. Cir. 1988).

The specification fails to disclose a system where a camera or cameras can take multiple images at a given instant of a field of view. For example, there is no disclosure or instruction as to how a single camera can take two images at the same time (i.e., a given instant). With the lack of discussion in the specification and direction about how simultaneous images could be taken with a single camera, the claims do not enable a POSITA as to how to make and use the full scope of the invention.

Independent claim 13 (and dependent claims) of the ’842 patent contain similar limitations that were added during prosecution and are invalid under 35 U.S.C § 112, ¶ 2 for lack of enablement for the same reasons discussed with respect to claim 1.

Therefore, claims 1-3, 7-13, and 15-17 of the '842 patent are invalid under 35 U.S.C § 112, ¶ 2 for lack of enablement.

IV. Document Production under Local Patent Rule 3-4.

Voyis has produced the prior art identified above in line with Local Patent Rule 3-4(b) bearing Bates Nos. VOYIS003072-VOYIS003181. Voyis has supplemented its production with the prior art identified above bearing Bates Nos. VOYIS003256 - VOYIS003363. Voyis will produce additional prior art evidence as it becomes available. Voyis will produce the documents described in Local Patent Rule 3-4(a), to the extent they have such documents in their possession, custody, or control and they have not already been produced.

Respectfully Submitted,

**BENESCH, FRIEDLANDER, COPLAN
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CERTIFICATE OF SERVICE

I hereby certify that, on April 12, 2023, a true and correct copy of DEFENDANT VOYIS IMAGING, INC.'S FOURTH SUPPLEMENTAL INITIAL INVALIDITY CONTENTIONS was sent to all counsel of record via email.

/s/ Jodi Baker

IP Litigation Paralegal for Defendant